CLAIMS

1. A permalloy sensor device having high sensitivity, comprising:

a substrate and a sensor on said substrate, said sensor having a first surface, said first surface having a wafer level anisotropy in a given direction; and

a permalloy resistor pattern of individual runners deposited on said first surface such that the mechanical length of each of said individual runners is perpendicular to the wafer level anisotropy to cause said sensor to have an anisotropy of about 90°.

2. The device of claim 1, wherein said permalloy is deposited as a thin film.

3. The device of claim 2, wherein said substrate is a silicon wafer.

4. A permalloy sensor having high sensitivity, comprising:

substrate means for forming the body of a sensor and having a first surface, said first surface having a wafer level anisotropy in a given direction; and

permalloy resistor pattern means for providing individual runners deposited on said surface such that the mechanical length of each of said individual runners is perpendicular to the wafer level anisotropy to cause said sensor to have an anisotropy of about 90°.

5. The of claim 4, wherein said permalloy is deposited as a thin film.

6. The of claim 5, wherein said substrate is a silicon wafer.

7. A method of forming a permalloy sensor including the steps of:

providing a substrate and a sensor on said substrate, said sensor sensor having a first surface, said first surface having a wafer level anisotropy in a given direction; and

depositing a permalloy resistor pattern of individual runners on said surface such that the mechanical length of each of said individual runners is perpendicular to the wafer level anisotropy to cause said sensor to have an anisotropy of about 90°.

8. The method of claim 7, wherein said permalloy is deposited as a thin film.

9. The method of claim 8, wherein said substrate is a silicon wafer.